Date: Fri, 3 Dec 93 04:30:46 PST
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V93 #121
To: Ham-Homebrew

Ham-Homebrew Digest   Fri, 3 Dec 93   Volume 93 : Issue 121

Today's Topics:

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 2 Dec 1993 04:10:15 GMT
From: concert!samba.oit.unc.edu!not-for-mail@decwrl.dec.com
Subject: Building a 2m/70cm mobile antenna
To: ham-homebrew@ucsd.edu

Greetings:
  I'm kinda new to Ham Radio and am usually
  broke as well. Does anyone have any ideas
  or plans to build a *cheap* dual band antenna
  for 2m/70cm to mount on a truck bumper?

  I'm using a Yeasu FT-727 and will probably
  be building the 2m amplifier in the Nov.
  issue of 73 magazine.

  Any comments, suggestions, warnings, plans,
  diagrams, etc... will be appreciated.
  Responses may be e-mailed to:

a10rxw1@hayek.cob.niu.edu

73 de KF9QQ
-Rich-

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The opinions expressed are not necessarily those of the University of
North Carolina at Chapel Hill, the Campus Office for Information
Technology, or the Experimental Bulletin Board Service.
internet: laUNChpad.unc.edu or 152.2.22.80

Date: 30 Nov 1993 21:00:24 GMT
From: pacbell.com!sgiblab!swrinde!cs.utexas.edu!howland.reston.ans.net!noc.near.net!sunfish.hi.com!brainiac.hi.com!user@network.ucsd.edu
Subject: sw-radio coils...question.
To: ham-homebrew@ucsd.edu

In article <CHBHos.ILA@cbnewsm.cb.att.com>, jeffj@cbnewsm.cb.att.com (jeffrey.n.jones) wrote:
> I was wondering about the differences between the various core types.
> In some applications they call for T-50-2 and others they call for
> T-50-6. A lot of times it looks like they are using what they have on
> hand and you could subsitute a T-50-2 for a T-50-6 or vice versa.
> Is the 2 or the 6 extender more of a indication of the amount of power
> the toriods can handle?

In T-50-2, the "T" presumeably stands for "toroid"; the "-50" is the outside diameter of the toroid; and the "-2" suffix is the iron-powder "mix", or type of core material. The mix determines the permeability (mu) of the toroid. The inductance of a coil wound on the toroid is directly affected by the permeability of the core material - I think it's a linear dependence, but I don't remember exactly.

Also, some core types are more temperature stable, or have different saturation limits, etc, so even if the permeability matches, a different core type might not work satisfactorily.

In FT-50-77, the "FT" presumably stands for "ferrite toroid".

I suggest contacting a toroid manufacturer such as Amidon for a catalog.

Steve Byan internet: steve@hicomb.hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: 1 Dec 1993 15:14:23 GMT
From: cs.utexas.edu!math.ohio-state.edu!news.acns.nwu.edu!casbah.acns.nwu.edu!
rdewan@uunet.uu.net
Subject: sw-radio coils...question.
To: ham-homebrew@ucsd.edu

In article <CHBHos.ILA@cbnewsm.cb.att.com>,
jeffrey.n.jones <jeffj@cbnewsm.cb.att.com> wrote:

>I was wondering about the differences between the various core types.
>In some applications they call for T-50-2 and others they call for
>T-50-6. A lot of times it looks like they are using what they have on
>hand and you could subsitute a T-50-2 for a T-50-6 or vice versa.
>Is the 2 or the 6 extender more of a indication of the amount of power
>the toriods can handle? As I am just getting started in doing some
>of my own homebrewing it would be nice to know that I can use a T-50-2
>that I have on hand rather then having to wait for mailorder to show
>up with a T-50-6. The applications I am working with are VFO's, output
>filters and matching impedances. Could someone enlighten me on toriods?
>

A good place to start is the ARRL Handbook. Amidon catalog also has
lots of useful information.

Here is a comparison of #2 and #6 powdered iron core mixes:

	#2	#6	
permeability	10	8	so a #6 toroid needs more turns
temp stability (ppm/c)	95	35	if #6 can be used, then preferred for vfos
preferred freq range	2-10MHz	10-20Mhz	the big reason to pick different ones
usable range	.2-30MHz	10-50Mhz	

So for 160-40m I would pick #2 mix. For 30m-10m bands, I would pick
the yellow #6 mix.

Some one did mention that ferrites have higher losses than powdered
iron cores. An important corollary is that coils wound on powdered iron cores
have higher Q than ones on ferrite cores (despite needing more turns).
Consequently, powdered iron cores are preferred for tuned circuits such
as vfo tanks, input/output tanks on rf amplifiers, antenna tuning units
etc. On the other hand, the lower Q of the ferrite lends itself to
broad band applications such as antenna baluns, broadband transformers
as in tanks for wide bandwidth amplifiers and rf chokes.

Rajiv
aa9ch

r-dewan@nwu.edu

Date: 30 Nov 1993 20:32:47 GMT
From: ftpbox!mothost!delphinium.rtsg.mot.com!rtsg.mot.com!reichrt@uunet.uu.net
Subject: sw-radio coils...question.
To: ham-homebrew@ucsd.edu

In article <CHBHos.ILA@cbnewsm.cb.att.com>, jeffj@cbnewsm.cb.att.com
(jeffrey.n.jones) writes:
|> In article <2649@arrl.org> zlau@arrl.org (Zack Lau) writes:
|> >In rec.radio.amateur.homebrew, st92ba44@dunx1.ocs.drexel.edu (antonio gatta)
writes:
|> >> I'm not sure if this is the right place to ask but the title seemed
|> >> appropriate (and I couldn't find a faq). Anyhows, I'm working on
|> >> a crystal shortwave radio which requires a t-50-2 toroid core onto
|> >> which the coil is wound. I'm wondering if a straight (bar) ferrite
|> >They are similar in that both are used to increase the inductance of a
|> >coil. However, type 2 iron powder of 10, while ferrite materials usually
|> >have a much higher permeability (though some VHF materials have a similar
|> >permeability). Ferrites typically have higher loss, though I've seen
|> >inductors wound on type 67 material with low loss. Many will have 1 to
|> >2 magnitudes more loss. Ferrites are often less frequency stable.
|>
|> I was wondering about the differences between the various core types.
|> In some applications they call for T-50-2 and others they call for
|> T-50-6. A lot of times it looks like they are using what they have on
|> hand and you could subsitute a T-50-2 for a T-50-6 or vice versa.
|> Is the 2 or the 6 extender more of a indication of the amount of power
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|> of my own homebrewing it would be nice to know that I can use a T-50-2
|> that I have on hand rather then having to wait for mailorder to show
|> up with a T-50-6. The applications I am working with are VFO's, output
|> filters and matching impedances. Could someone enlighten me on toriods?
|>
|> 73!
|>
|> Jeff
|> -

The T-50-2 core usually provides highest unloaded Q in the Lower HF range while
the T-50-6 aims at the upper HF range. The Inductance/Turn is different so
you shouldn't expect a direct substitution. These sound like the Amidon Toroids I
use. They supply excellent data sheets with design information on how to wind/
calculate inductance. Don't have their address with me but they advertise in most
RF and HAM Radio magazines.

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```
     ========================================================================
     | Charles H. Reichert    708-632-6669 Work - MOTOROLA, INC  Cellular |
     | KD9JQ                  708-358-3827 HOME - after 8PM CST  weekdays |
     | reichrt@rtsg.mot.com   955 Concord Ln.  Hoffman Ests., IL. 60195   |
     ========================================================================
```

Date: 2 Dec 93 13:31:59 GMT
From: news-mail-gateway@ucsd.edu
Subject: Telephone interface circuit
To: ham-homebrew@ucsd.edu

> I am looking for examples of circuits that will allow me to interface any
> audio based equipment (say a PC's soundblaster card or audio from HF rig,
> etc.) to the telephone line.
> .
> .
> .
> .
> Thanks.
> .
> .
> .
> Keith
> ZS6TW

Keith,

Try CTS Knight. They have a telephone interface which is FCC type
accepted. I don't remember the address, but maybe some one out it
internet land will.

Good luck and 73

TJ, kv2x

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                                |
Thomas J. Jennings              | Tel: (716) 273 7071
Development Engineer            | Fax: (716) 273 7262
                                |
ABB Process Automation          |
Post Office Box 22685           |
Rochester, New York 14692-2685  |
                                |
```

Internet: jennings@jennings.rochny.uspra.abb.com

Date: Tue, 30 Nov 1993 22:05:58 PST
From: gatekeeper.us.oracle.com!barrnet.net!infoserv!cpuig!cpuig@uunet.uu.net
Subject: TMS32010
To: ham-homebrew@ucsd.edu

nat@kpc.com (Natarajan Gurumoorthy) writes:

> Anyone know of a place where one could buy the TI TMS32010 DSP chip
> in single quantities? Any idea how expensive this chip is?

My year-old Newark Electronics catalog lists various TMS320C10 versions (differing in speed and packaging) ranging from $9.70 to $11.55 in single quantities. Newark accepts credit cards, subject to a $25 minimum order. Call their Chicago HQ at (312) 784-5100 to find the sales office nearest you. Newark has dozens of offices throughout the US.

The Newark catalog also lists the TMS320C15, TMS320E17, TMS32020, TMS320C25, and TMS320C26.

--
Carlos Puig, KJ6ST cpuig@infoserv.com Campbell, CA

Date: Tue, 30 Nov 93 23:05:40 GMT
From: butch!rapnet!news@uunet.uu.net
Subject: Upgrade to a Micor
To: ham-homebrew@ucsd.edu

In article <4eVJDc2w165w@inqmind.bison.mb.ca> bills@inqmind.bison.mb.ca (Bill Shymanski) writes:
>From: bills@inqmind.bison.mb.ca (Bill Shymanski)
>Subject: Upgrade to a Micor
>Date: Wed, 24 Nov 93 20:57:50 CST

>Never volunteer to be on the technical comittee of a repeater
>club unless you have some idea of what's involved:
> Anyway....I'm a member of a repeater group that is currently
>involved in interconnecting repeater sites in several spots
>in southern Manitoba. At our last executive meeting, I was
>told we've had a complaint that our "flagship" repeater has
>a front end so broad that it lets in calls 20 khz off-channel -

>this is well past the adjacent channel and getting into the
>deep woods.   The VHF receiver is a Micor mobile, with the
>usual adaptions to repeater service.   Is it possible to
>get some third-party upgrade filter to tighten the response
>a bit, and upgrade this - or should we start saving
>up for a commercially built repeater ?
>(And is this problem related to the fact that the repeater is
>on a CBC broadcast tower with 100,000 watts of various
>broadcast transmitters on it ?)
>   Bill

>bills@inqmind.bison.mb.ca-
>The Inquiring Mind BBS, Winnipeg, Manitoba 204 668-8845

Hi Bill...

We use a Micor on 450 here and it appears to work well...but the adjacent channels are 25 kHz. I agree with the previous suggestions and add one of my own. Look at the preamplifier. Many of the GaAs fet types with tuned outputs have upwards of 20 db gain. This isn't necessary and degrades the intermodulation susceptability of the overall receiver. Our repeater uses a preamp with a resistivly loaded output that has about 10 db gain...which is more than sufficient to lower the system noise figure to close to the preamp's level.

jeff

The views expressed here are my own, not my employer's.
Jeff Millar, WA1HCO, Lockheed Sanders 603-885-7047

Date: 2 Dec 93 15:29:28 GMT
From: ogicse!uwm.edu!math.ohio-state.edu!news.acns.nwu.edu!casbah.acns.nwu.edu!
rdewan@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <CH84qA.3w2@Dunx1.OCS.Drexel.Edu>, <2dj0ou$19t@hpuerca.atl.hp.com>,
<1993Dec2.143400.16392@mnemosyne.cs.du.edu>
Subject : Re: sw-radio coils...question.

In article <1993Dec2.143400.16392@mnemosyne.cs.du.edu>,
Larry Kollar <lkollar@nyx10.cs.du.edu> wrote:
>
>A partially-related question -- does Amidon, or any reseller, sell a
>pre-packaged assortment of the most commonly-used toroids? All these

>different types are CONFUSING to the homebrewer wanna-be -- and from
>what I've read here, you can't count on color-coding to keep them
>straight....
>

Try
  Dan's Small Parts
  Danny Stevig KA7QJY

He advertises regularly in the QST's classified section.

Rajiv
aa9ch
r-dewan@nwu.edu

End of Ham-Homebrew Digest V93 #121
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